What is claimed is:

1. A method for determining whether a substance is an activator or an inhibitor of a function of a protein comprising: (a) contacting the protein with a substance to be tested, wherein the protein is a DHAM-kinase; and (b) measuring whether the function is inhibited or activated.

2. A method for determining whether a substance is an activator or an inhibitor of a function of a protein comprising: (a) contacting the protein with a substance to be tested, wherein the protein is a variant, mutant or fragment of a DHAM-kinase having a function of the corresponding DHAM-kinase; and (b) measuring whether the function is inhibited or activated.

3. The method according to claim 1 wherein the inhibition or activation of the desired function is measured directly.

4. The method according to claim 1 wherein the inhibition or activation of the desired function is measured indirectly.

5. The method according to claim 1 wherein the DHAM-kinase is a mammalian DHAM-kinase.

6. The method according to claim 5 wherein the DHAM-kinase is a human DHAM-kinase.

7. The method according to claim 1 wherein the method is performed using a cellular system.

8. The method according to claim 1 wherein the method is performed using a cell-free system.

9. The method according to claim 1 wherein the DHAM-kinase consists of an amino acid sequence selected from the group consisting of: SEQ ID NO:4, SEQ ID NO:10, and SEQ ID NO:12.

10. The method according to claim 9 wherein the amino acid sequence is SEQ ID NO:4.

11. The method according to claim 9 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:4 having the same function of SEQ ID NO:4.

12. The method according to claim 9 wherein the amino acid sequence is SEQ ID NO:10.

13. The method according to claim 9 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:10 having the same function of SEQ ID NO:10.

14. The method according to claim 9 wherein the amino acid sequence is SEQ ID NO:12.

15. The method according to claim 9 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:12 having the same function of SEQ ID NO:12.

16. The method according to claim 1 wherein the function is a kinase activity.

17. The method according to claim 16 wherein the function is substrate binding.

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18. The method according to claim 16 wherein the function is a specific phosphorylation of a substrate.

19. A method for determining an expression level of a DHAM-kinase comprising: (a) determining the level of the DHAM-kinase expressed in a hyperactivated macrophage; (b) determining the level of the DHAM-kinase expressed in a non-hyperactivated macrophage; and (c) comparing the level of the DHAM-kinase expressed in step (a) to the level of the DHAM-kinase expressed in step (b), wherein a difference in levels indicates a differentially expressed DHAM-kinase.

20. The method according to claim 19 wherein the macrophage is a mammalian macrophage.

21. The method according to claim 20 wherein the macrophage is a human macrophage.

22. The method acording to claim 19 wherein the difference in expression level is determined at the DHAM-kinase nucleic acid level.

23. The method acording to claim 19 wherein the difference in expression level is determined at the DHAM-kinase protein level.

24. The method according to claim 23 wherein the DHAM-kinase protein consists of an amino acid sequence selected from the group consisting of: SEQ ID NO:4, SEQ ID NO:10, and SEQ ID NO:12.

25. The method according to claim 24 wherein the amino acid sequence is SEQ ID NO:4.

26. The method according to claim 24 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:4 having the same function of SEQ ID NO:4.

27. The method according to claim 24 wherein the amino acid sequence is SEQ ID NO:10.

28. The method according to claim 24 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:10 having the same function of SEQ ID NO:10.

29. The method according to claim 24 wherein the amino acid sequence is SEQ ID NO:12.

30. The method according to claim 24 wherein the amino acid sequence is a variant, mutant or fragment of SEQ ID NO:12 having the same function of SEQ ID NO:12.

31. A method for diagnosing or monitoring a chronic inflammatory airway disease comprising: (a) determining the level of a DHAM-kinase expressed in a hyperactivated macrophage; (b) determining the level of the DHAM-kinase expressed in a non-hyperactivated macrophage; and (c) comparing the level of the DHAM-kinase expressed in step (a) to the level of the DHAM-kinase expressed in step (b), wherein a difference in levels indicates a differentially expressed DHAM-kinase.

32. The method acording to claim 31 wherein the difference in expression level is determined at the DHAM-kinase nucleic acid level.

33. The method acording to claim 31 wherein the difference in expression level is determined at the DHAM-kinase protein level.

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34. The method according to claim 31 wherein the chronic inflammatory airway disease is selected from the group consisting of chronic bronchitis and COPD.

35. The method according to claim 31 wherein the method is performed using a macrophage or a part thereof obtainable from a site of inflammation.

36. A substance determined to be an activator or an inhibitor of a DHAM-kinase.

37. A substance determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 1.

38. A substance for the treatment of a disease wherein the substance is an activator or an inhibitor of a DHAM-kinase.

39. The substance according to claim 38 wherein the disease is a chronic inflammatory airway disease.

40. The substance according to claim 39 wherein the chronic inflammatory airway disease is selected from the group consisting of: chronic bronchitis and COPD.

41. A pharmaceutical composition comprising at least one substance which is an activator or an inhibitor of a DHAM-kinase; and a pharmaceutical carrier.

42. A pharmaceutical composition comprising at least one substance which is determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 1; and a pharmaceutical carrier.

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43. A pharmaceutical composition comprising at least one substance which is determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 9; and a pharmaceutical carrier.

44. A method for treating a chronic inflammatory airway disease comprising: administering to a subject in need of such treatment an effective amount of a pharmaceutical composition comprising at least one substance determined to be an activator or an inhibitor of a DHAM-kinase.

45. The method according to claim 44 for treating a mammal.

46. The method according to claim 44 for treating a human being.

47. The method according to claim 44 for treating a chronic inflammatory airway disease selected from the group consisting of chronic bronchitis and COPD.

48. A method for treating a chronic inflammatory airway disease comprising: administering to a subject in need of such treatment an effective amount of a pharmaceutical composition comprising at least one substance determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 1.

49. A method for treating a chronic inflammatory airway disease comprising: administering to a subject in need of such treatment an effective amount of a pharmaceutical composition comprising at least one substance determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 9.

50. A method for selectively modulating a DHAM-kinase in a macrophage, comprising administering a substance determined to be an activator or an inhibitor of a DHAM-kinase.

51. The method according to claim 50 wherein the macrophage is involved in a chronic inflammatory airway disease.

52. The method according to claim 50 wherein the chronic inflammatory airway disease is selected from the group consisting of: chronic bronchitis and COPD.

53. A method for selectively modulating a DHAM-kinase in a macrophage, comprising administering a substance determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 1.

54. A method for selectively modulating a DHAM-kinase in a macrophage, comprising administering a substance determined to be an activator or an inhibitor of a DHAM-kinase according to the method of claim 9.

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